ADC Next Generation Frame™
96 & 144 Position Fiber Termination Block
User Manual

ADCP-90-287 • Issue 2 • 5/2009

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REVISION HISTORY

ISSUE	DATE	REASON FOR CHANGE
1	3/2002	Original.
2	5/2009	Add fiber specification and update illustrations.

LIST OF CHANGES

The technical changes incorporated into this issue are listed below.

PAGE	IDENTIFIER	DESCRIPTION OF CHANGE
v, 2, 23, 26		Add note on fiber diameter specification.
-	Figures	2, 6, 8, 9, 10, 20, 24, 25, 26, 27

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ABOUT THIS MANUAL

This user manual provides the following information:

- A description of the 96 & 144 position Fiber Termination Blocks (FTBs); their components and terminology, typical applications, and typical accessories;
- Procedures for installing an FTB on any of the Next Generation Frame (NGF) racks;
- Procedures for terminating connectorized Outside Plant (OSP) cables, Intra-Facility Cables (IFC), or Fiber Optic Terminal (FOT) equipment patch cords at the FTB.

Note: *The NGF Fiber Termination Blocks (FTBs) are designed to be used with 1.7mm or 2.0mm patchcords. 3.0mm patchcords should never be used due to the bulk build-up in the NGF solution.*

The procedures for installing the various NGF racks, including the Fiber Main Distribution Frame (FMDF), the Front Facing Fiber Main Distribution Frame (F3MDF), and the Slim Rack Fiber Distribution Frame, are provided in other ADC publications (see "Related Publications," below).

RELATED PUBLICATIONS

Listed below are related manuals, their content, and their publication numbers. Copies of these publications can be ordered by contacting the Technical Assistance Center at 1-800-366-3891, extension 73476 (in U.S.A. or Canada) or 952-917-3476 (outside U.S.A. and Canada).

Title/Description	ADCP Number
Next Generation Frame Fiber Main Distributing Frame User Manual Provides a complete description of the FMDF and procedures for installing the FMDF rack, the FTB, and the FCB.	**90-273**
Next Generation Frame Slim Rack Fiber Distributing Frame User Manual Provides a complete description of the slim rack frame and procedures for installing the FMDF rack, the FTB, and the FCB.	**90-272**
Next Generation Frame Fiber Combination Block User Manual Provides instructions for installing the FCB in the NGF rack.	**90-279**
Next Generation Frame Fiber Optic Terminal Storage Bay User Manual Provides instructions for installing the FOTSB with the FMDF rack.	**90-270**

ADMONISHMENTS

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. An admonishment identifies a possible hazard and then explains what may happen if the hazard is not avoided. The admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times.

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These warnings are flagged by use of the triangular alert icon (seen below), and are listed in descending order of severity of injury or damage and likelihood of occurrence.

Danger: *Danger is used to indicate the presence of a hazard that **will** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*

Warning: *Warning is used to indicate the presence of a hazard that **can** cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*

Caution: *Caution is used to indicate the presence of a hazard that **will** or **can** cause minor personal injury or property damage if the hazard is not avoided.*

GENERAL SAFETY PRECAUTIONS

Danger: *Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters of the adapter packs. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood MUST be immediately placed over any radiating adapter or optical fiber connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.*

LIST OF ACRONYMS AND ABBREVIATIONS

The following acronyms are used in this manual:

FCB	Fiber Combination Block
FMDF	Fiber Main Distributing Frame
FOT	Fiber Optic Terminal
FOTSB	Fiber Optic Terminal Storage Bay
FTB	Fiber Termination Block
F3MDF	Front Facing Fiber Main Distributing Frame
IFC	Intra-Facility Fiber Cable
NGF	Next Generation Frame
OSP	Outside Plant
VAM	Value Added Module

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1 OVERVIEW AND DESCRIPTION

This section describes the ADC 96 & 144 position Fiber Termination Blocks (FTBs) and explains their basic applications. This section also contains product specifications. The 96 & 144 position FTBs have many common features. Statements made in this manual regarding the FTB alone, without reference to number of positions, pertain to both types.

1.1 Description

1.1.1 FTB Primary Function

FTBs are used in conjunction with an NGF rack (FMDF, F3MDF, or Slim Rack) to provide a point for terminating connectorized fiber optic cables and for interconnecting or cross-connecting the terminated circuits using patch cords. Figure 1 shows two FTBs and a frame.

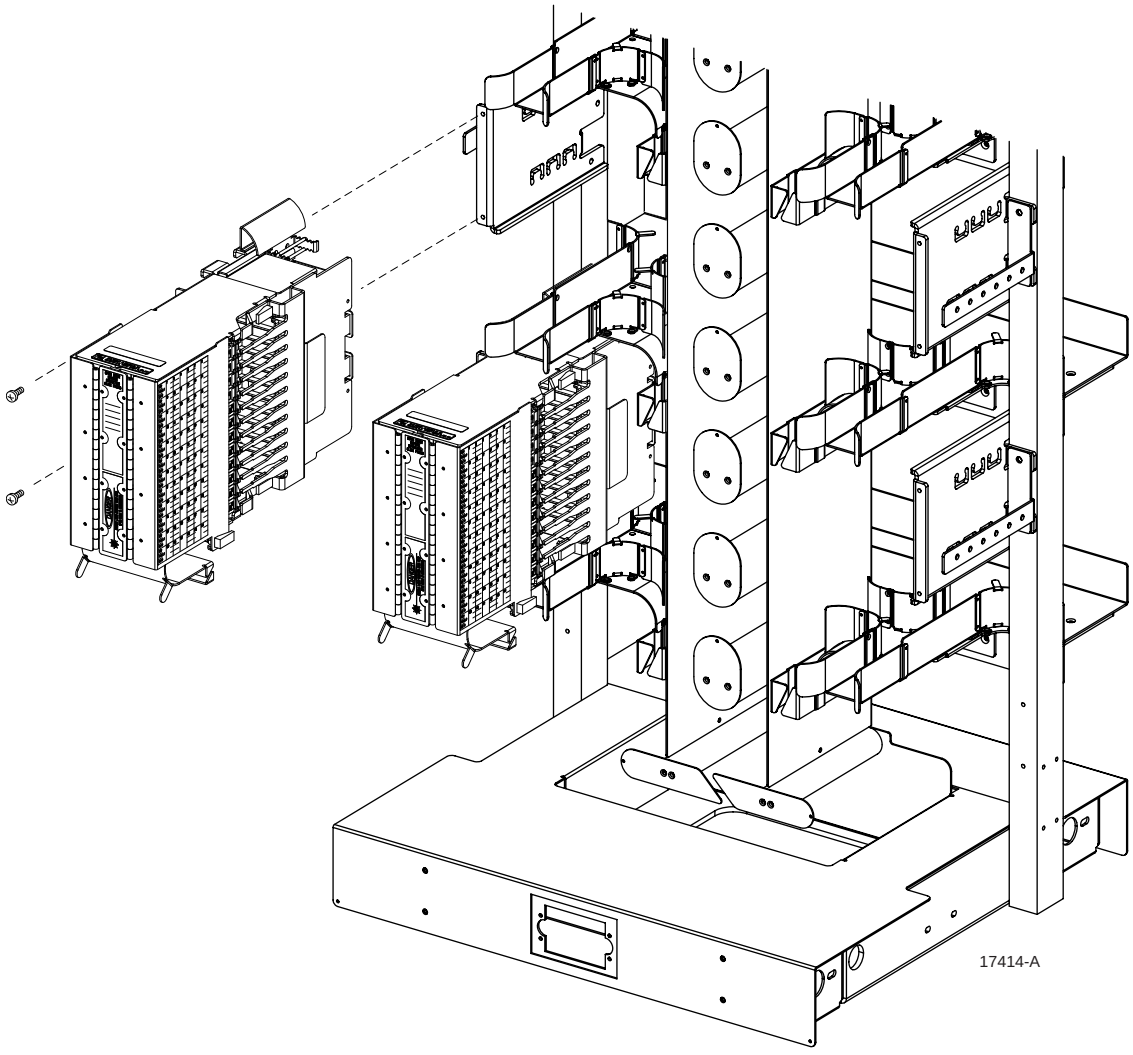

Figure 1. Fiber Termination Blocks and Frame

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Connectorized OSP and IFC cables and FOT equipment patch cords terminate at the rear of the FTB. Cross-connect or interconnect patch cords connect to the front of the FTB. The FTB mounts on the NGF rack, which provides physical support and cable management. The FTB has a left or right orientation for installation on either the left or right side of the frame (as viewed from the front). In addition, the FTB also has a top or bottom cable exit orientation.

Note: *The NGF Fiber Termination Blocks (FTBs) are designed to be used with 1.7mm or 2.0mm patchcords. 3.0mm patchcords should never be used due to the bulk build-up in the NGF solution.*

1.1.2 FTB Primary Components

An FTB consists of a sheet metal chassis that houses rows of sliding adapter packs and the necessary cable management for routing the fiber optic cables within the chassis. The 96 position chassis, shown in Figure 2, accepts sliding adapter packs that contain four adapters each, while the 144 position chassis accepts sliding adapter packs that contain six adapters each. The adapter packs are available with SC, FC, ST, and E-2000 adapters that provide 96 or 144 terminations per FTB. Adapter packs are also available with LX.5 adapters which can provide up to 144 terminations.

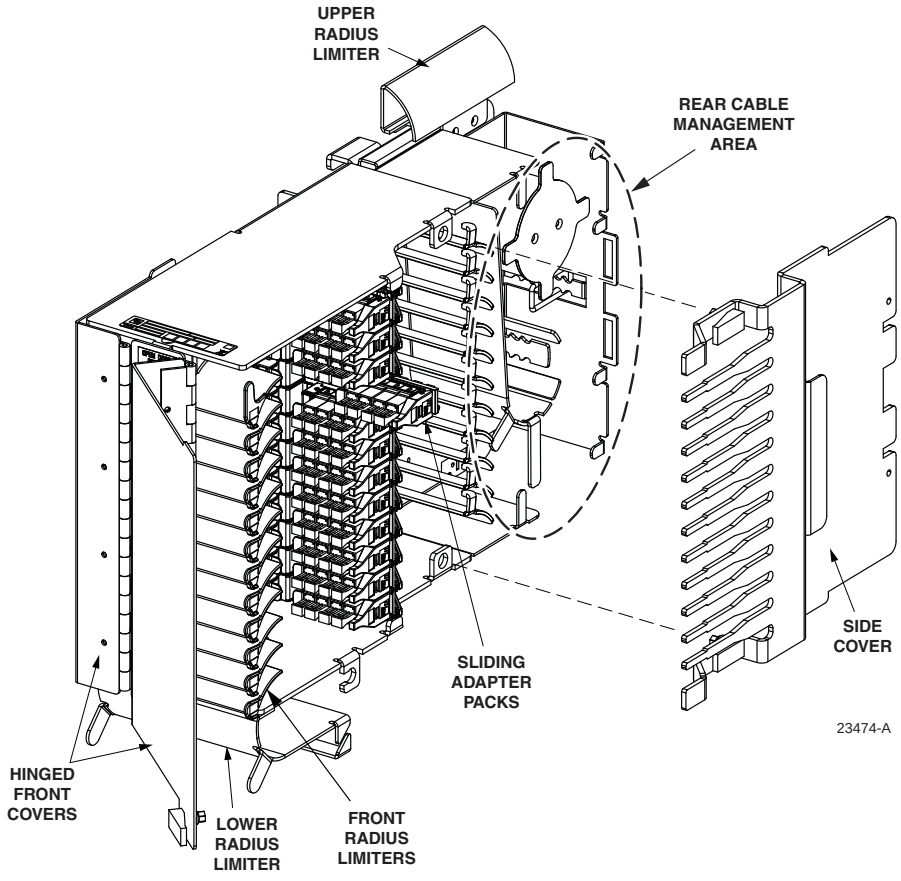

Figure 2. Fiber Termination Block (96 Position Chassis Shown)

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The FTB chassis includes a removable side cover and two hinged front covers. Removing the side cover provides access to the rear cable management area (see Figure 2). The rear cable management area includes features for clamping and routing OSP/IFC cables and equipment jumpers, and a spool for storing fiber slack. Opening the FTB front covers provides access to the adapter packs (by sliding them out) and to the front radius limiters which facilitate the routing of interconnect or cross-connect patch cords. The front covers also include designation labels to identify the optical circuits.

1.1.3 Options That Affect Installation

The following FTB ordering options may affect the installation process:

- The FTB may be ordered in either a pre-terminated or adapter only version. In the pre-terminated version, shown in Figure 3, the FTB is equipped with an installed OSP or IFC cable. One end of the cable is connected to the rear side of the adapters within the FTB. The other end of the OSP/IFC cable is coiled on a spool. At the job site, the free end of the OSP/IFC cable must be uncoiled from the spool and then routed to another location for splicing or connection to the OSP or FOT equipment circuits. The adapter only FTB is loaded with adapters only and does not include a pre-terminated OSP or IFC cable. The adapter only FTB is typically used to terminate FOT patch cords in a cross-connect application.

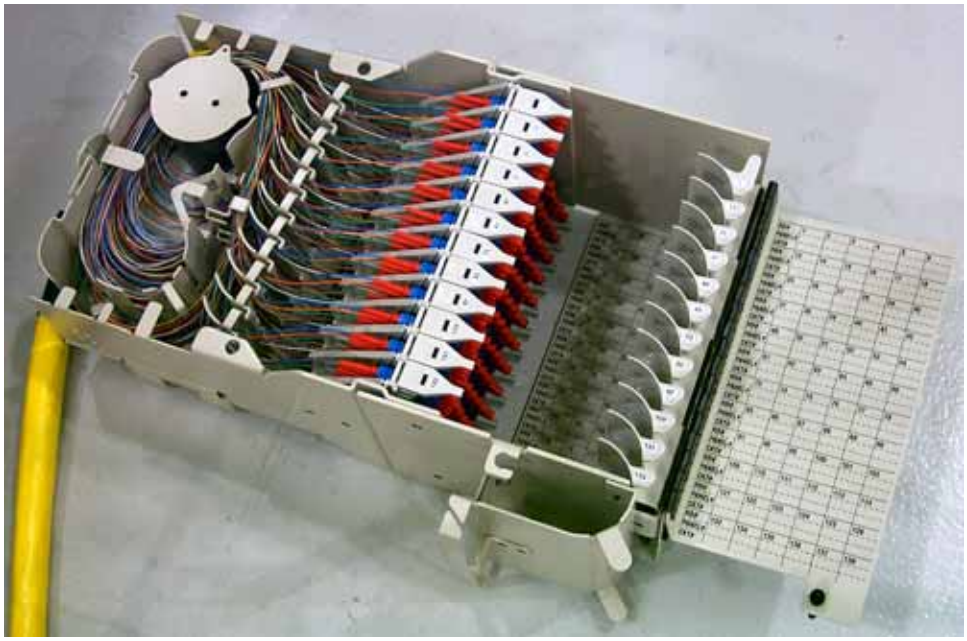

Figure 3. 144 Position Pre-Terminated FTB in Down Configuration

- The FTB may be ordered with a top or bottom exit orientation for the OSP/IFC cable or FOT equipment patch cords. With the top (“up”) exit orientation, the OSP/IFC cable or FOT equipment patch cords must be routed out of the FTB toward the top of the frame. With the bottom (“down”) exit orientation, the OSP/IFC cable or FOT equipment patch cords must be routed out of the FTB toward the bottom of the frame.

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- The FTB may be ordered with a left or right orientation. The left-orientation FTB installs on the left side of the frame (when facing the front of the frame); the right-orientation FTB installs on the right side of the frame.

1.1.4 Accessories

The following accessories are available for use with the FTB:

- **Cable Clamp Kits**—Provide a clamp and other hardware required for securing IFC or OSP cables to the rear side of the FTB.
- **IFC Cable Assemblies**—Are available with singlemode or multimode fiber in specified lengths and with specified connectors.
- **Patch Cords**—Are available with specified connectors in standard lengths of 6.0, 7.0, 8.0, 9.0, 10.0, and 12.0 meters.
- **Adapter Packs**—Are available separately with specified adapters, and can be used as either as replacements for existing adapter packs or to add termination capacity. Each FTB provides 24 adapter pack mounting slots.
- **In-Line Attenuators**—Install between an adapter and connector. Can be mounted on either the front side or the rear side of an adapter pack.
- **Connector Cleaning Kit**—Provides all the materials required to correctly clean fiber optic connectors and adapters.

1.2 Applications

The FTB may be used to support either interconnect or cross-connect frame applications. Both are described below.

1.2.1 Interconnect Application

In an interconnect application, only the OSP circuits are terminated at the rear of the frame. The FOT equipment is connected directly to the OSP terminations using interconnect patch cords. The excess patch cord slack is stored in the slack storage area on the front of the frame. Figure 4 shows a typical interconnect application using the FMDF. An interconnect application uses the entire frame for terminating OSP circuits. An overhead or underfloor fiber raceway system such as the FiberGuide system must be used for routing the interconnect patch cords to the frame.

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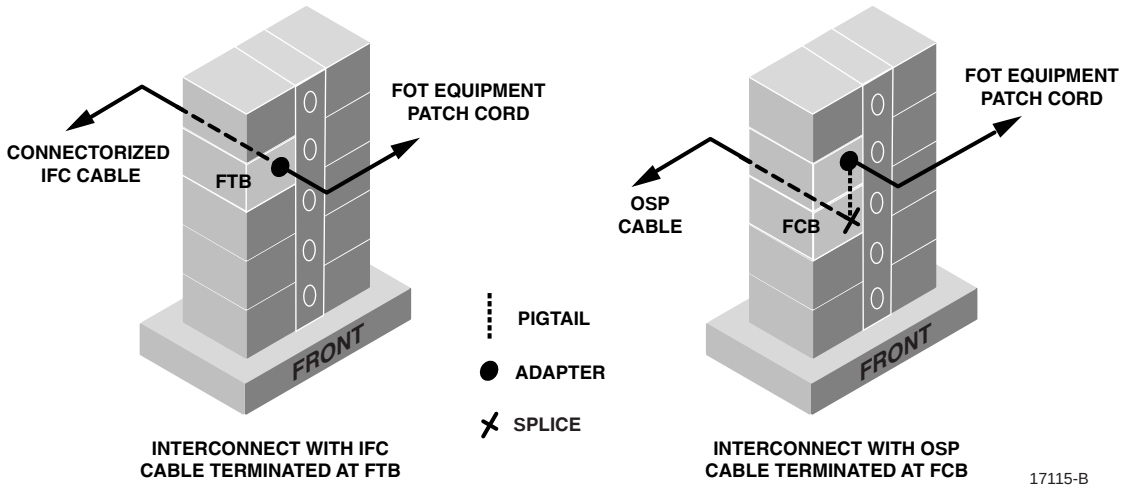

Figure 4. Typical Interconnect Application

1.2.2 Cross-Connect Application

In a cross-connect application, both FOT equipment circuits and OSP circuits are terminated at the rear of the frame. An FOT equipment circuit may be connected to an OSP circuit, an FOT equipment circuit may be connected to another FOT equipment circuit, or an OSP circuit may be connected to another OSP circuit, using a cross-connect patch cord. The excess patch cord slack is stored in the slack area on the front of the frame. Figure 5 shows a typical cross-connect application using the FMDF.

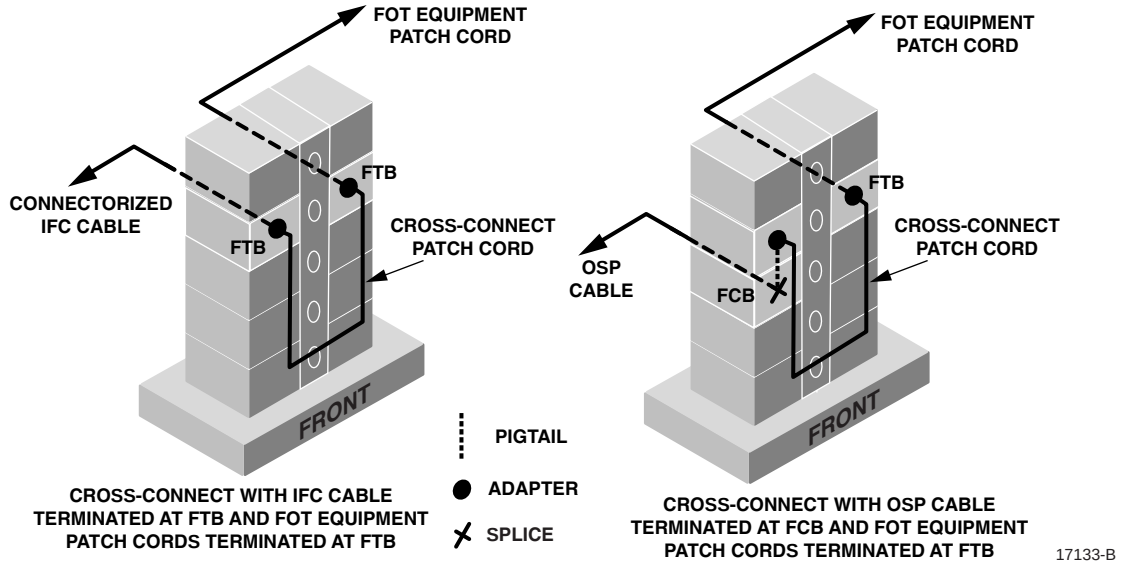

Figure 5. Typical Cross-Connect Application

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1.3 Specifications

Table 1 provides specifications for the FTB.

Table 1. FTB Specifications

PARAMETER	SPECIFICATION	REMARKS
Physical		
Number of Terminations	96 or 144	
Connector types	SC, FC, ST, E-2000, or LX.5	
Environment		
Temperature		
Operating	–40° C to 65° C (–40° F to149° F)	
Storage	–55° C to 85° C (–67° F to185° F)	
Relative Humidity		
Operating	Up to 80%	No condensation
Storage	Up to 95%	No condensation

2 UNPACKING AND INSPECTING THE PRODUCT

Use the following procedure to unpack and inspect the FTB:

1. Inspect the exterior of the shipping container for evidence of rough handling that may have damaged the contents of the container.
2. Unpack the FTB and inspect for possible damage.
3. If damage is detected or if parts are missing, file a claim with the commercial carrier and then notify ADC Customer Service. Save damaged carton for inspection by carrier.
4. Refer to Section 7 of this publication (see Product Return Department) for repair, replacement, and warranty information.
5. Even if no damage is evident, save the shipping container in case the equipment requires shipment at a future date.

3 ADAPTER PACK INSTALLATION

Adapter packs may be ordered separately and installed in the FTB as needed. If this is the case in your installation, install the adapter packs before mounting the FTB on the rack.

3.1 Installing Adapter Packs

Use the following procedure to install adapter packs in the FTB:

1. Open the FTB front covers and locate the adapter pack mounting slots.

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2. Orient the adapter pack for installation as shown in Figure 6.

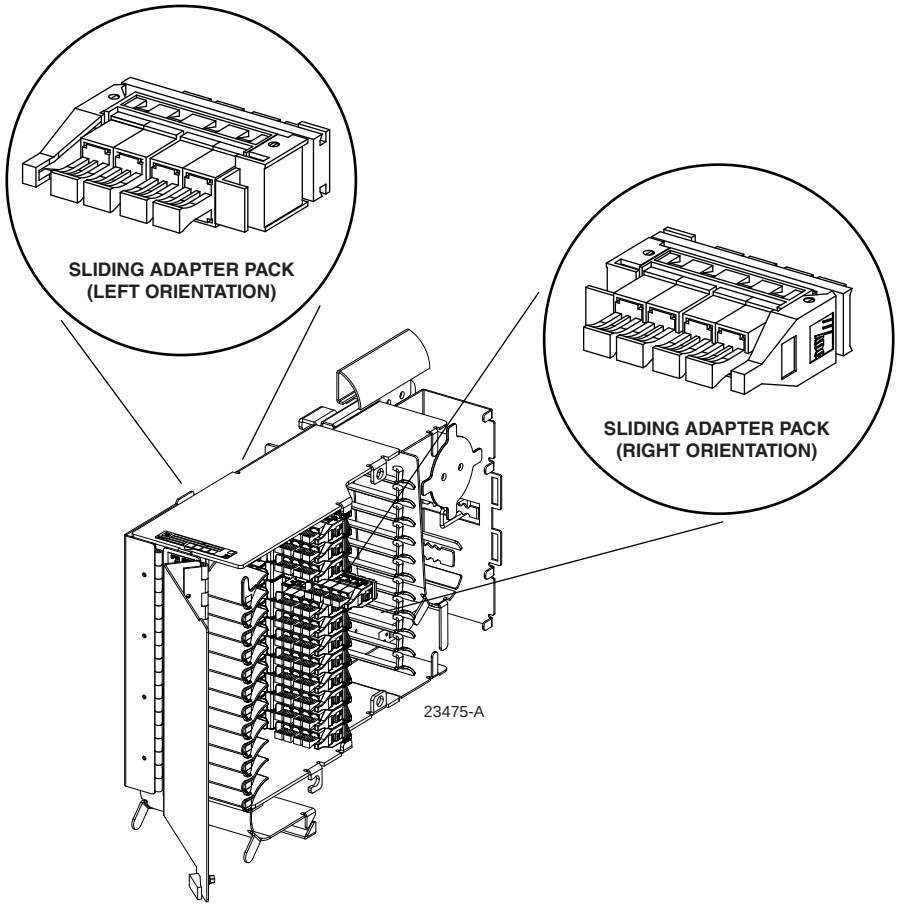

Figure 6. Adapter Pack Orientation and Installation in FTB

3. Insert the adapter pack into the designated mounting slot and slide it inward until it clicks into place.

Note: Each row holds two adapter packs. The left pack installs in the mounting slot from the left side and the right pack installs in the mounting slot from the right side. The end of the adapter pack without the rotating handle should be inserted into the mounting slot first.

4. Repeat the installation procedure for each adapter pack.

3.2 Removing an Adapter Pack

If it is necessary to remove one or more adapter packs, use the following procedure. Refer to Figure 7.

1. Rotate the rotating handle outward to grasp the adapter pack.
2. Slide the adapter pack out until it contacts the internal detent and continue pulling to release the pack from the mounting slot.

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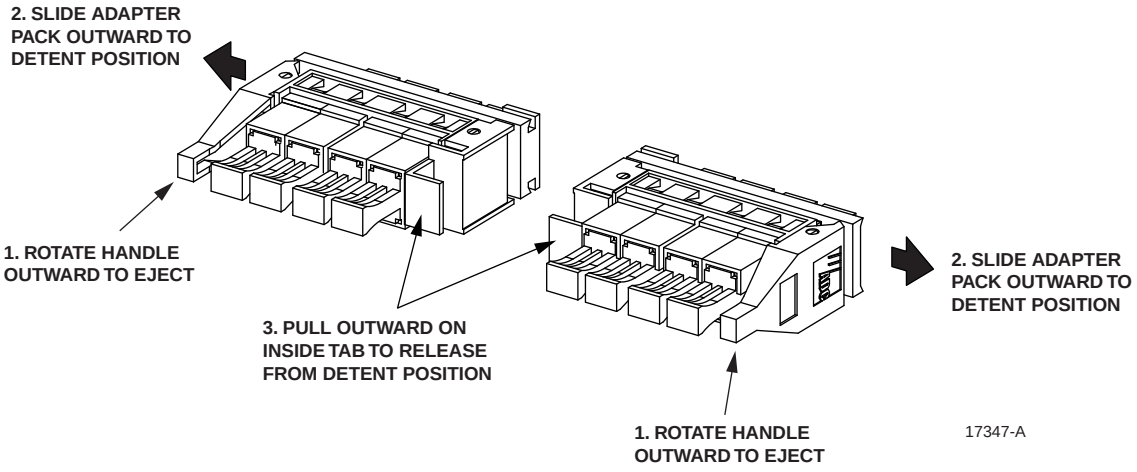
2. SLIDE ADAPTER PACK OUTWARD TO DETENT POSITION
1. ROTATE HANDLE OUTWARD TO EJECT
3. PULL OUTWARD ON INSIDE TAB TO RELEASE FROM DETENT POSITION
2. SLIDE ADAPTER PACK OUTWARD TO DETENT POSITION
1. ROTATE HANDLE OUTWARD TO EJECT
17347-A

Figure 7. Adapter Pack Removal From FTB

4 IFC OR OSP CABLE INSTALLATION

If the FTB is pre-terminated by the factory or will only be used for terminating FOT equipment patch cords, skip this entire section and proceed to Section 5.

If an IFC or OSP cable will be installed, install the cable before mounting the FTB in the NGF rack. This involves four procedures: preparing the FTB, preparing the cable, installing a cable clamp, and routing the cable within the FTB. For details, refer to the next four topics below.

4.1 Preparing the FTB

If an adapter only FTB was purchased and IFC or OSP cable will be loaded into it, you must first install a replacement rear cable management assembly in the FTB chassis. Install the replacement assembly using the following procedure.

1. Remove the rear radius limiter and FOT equipment jumper rear cable management tray from the FTB chassis, as shown in Figure 8. To remove the tray, remove the six #4-40 Phillips head screws shown in the figure.

Note: Set aside the six screws for use in the next step.

2. Install the replacement cable management tray as shown in Figure 9. Secure the tray to the FTB chassis using the six #4-40 Phillips head screws removed in the previous step.

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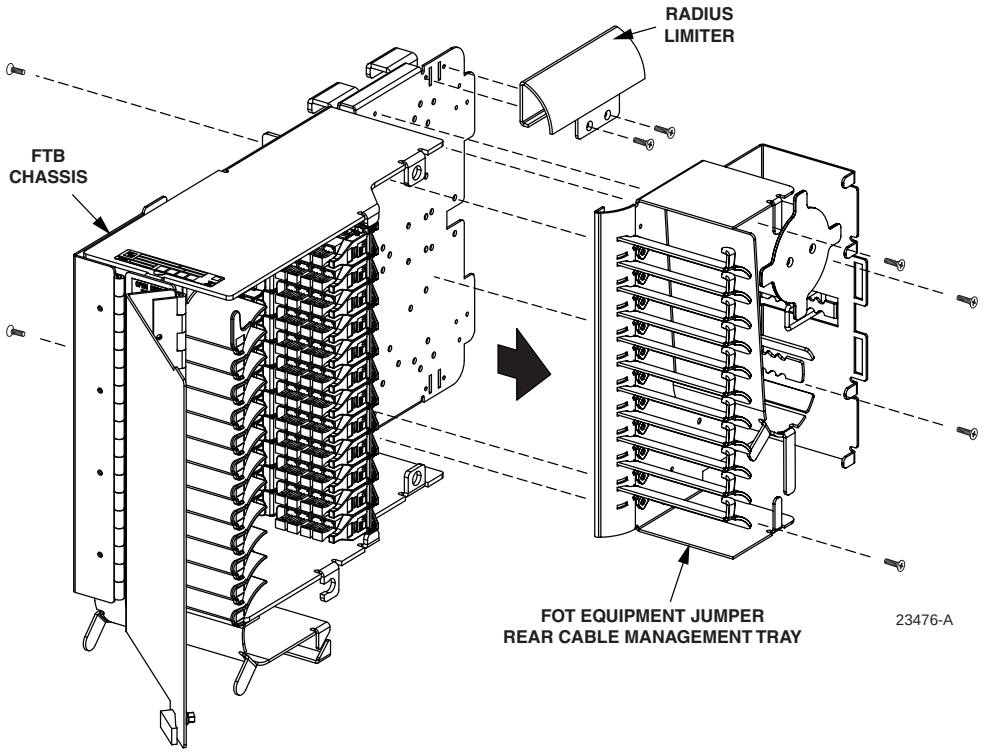

Figure 8. Removing Radius Limiter and FOT Equipment Jumper Rear Cable Management Tray

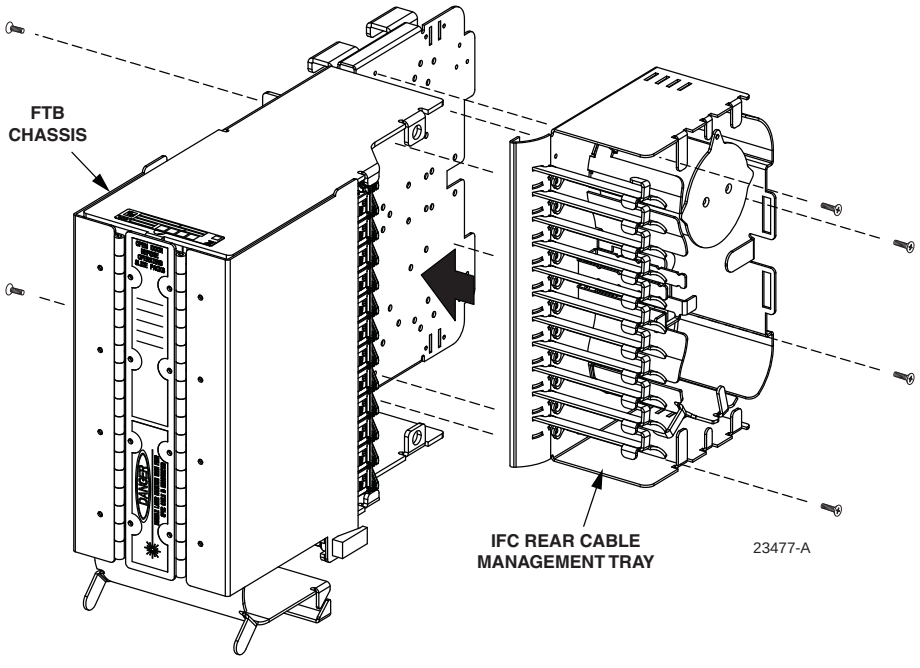

Figure 9. Installing the IFC Rear Cable Management Tray

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3. Install the IFC cable clamp bracket as shown in Figure 10 using the three screws and lock washers provided.

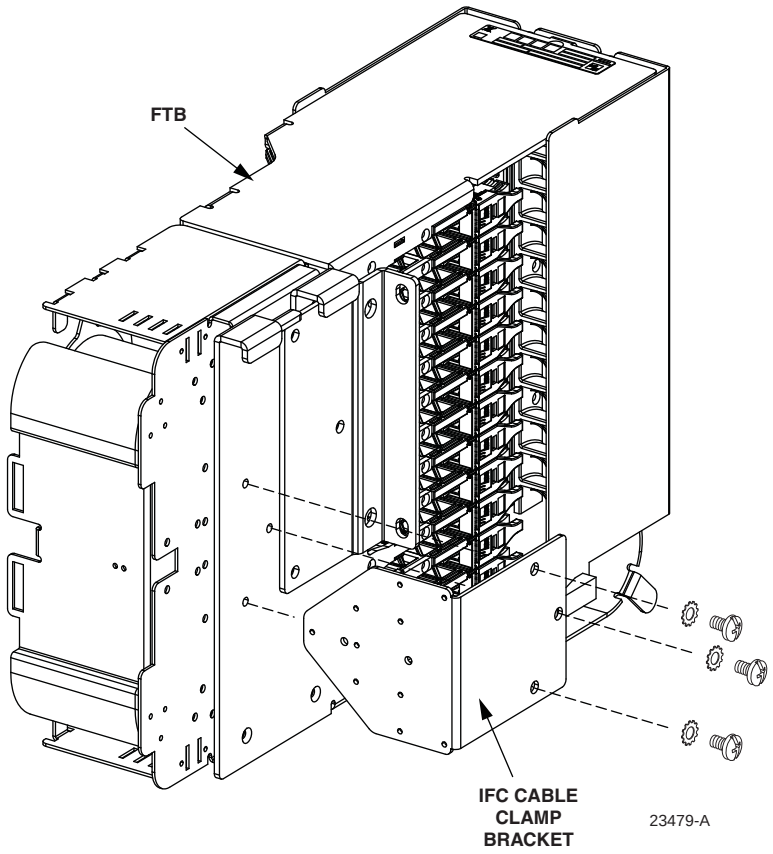

Figure 10. Installing the IFC Cable Clamp Bracket

4.2 Preparing Cable for Installation

After installing the IFC cable management tray and the IFC cable clamp bracket, you can proceed to prepare the IFC or OSP cable for installation. IFC or OSP cables purchased from ADC for installation in the FTB are pre-dimensioned and do not require any special preparation prior to installation. If the IFC or OSP cables are not purchased from ADC, prepare the cables for installation using the breakout dimensions shown in Figure 11 and Figure 12.

Before the IFC or OSP cable is clamped to the FTB, the cable may be routed and installed within the building or it may coiled up near the frame for routing and installation after the FTB is installed in the frame.

If the cable will be routed and installed before it is clamped to the FTB, leave sufficient slack at the frame end of the cable for installing the FTB in the NGF rack.

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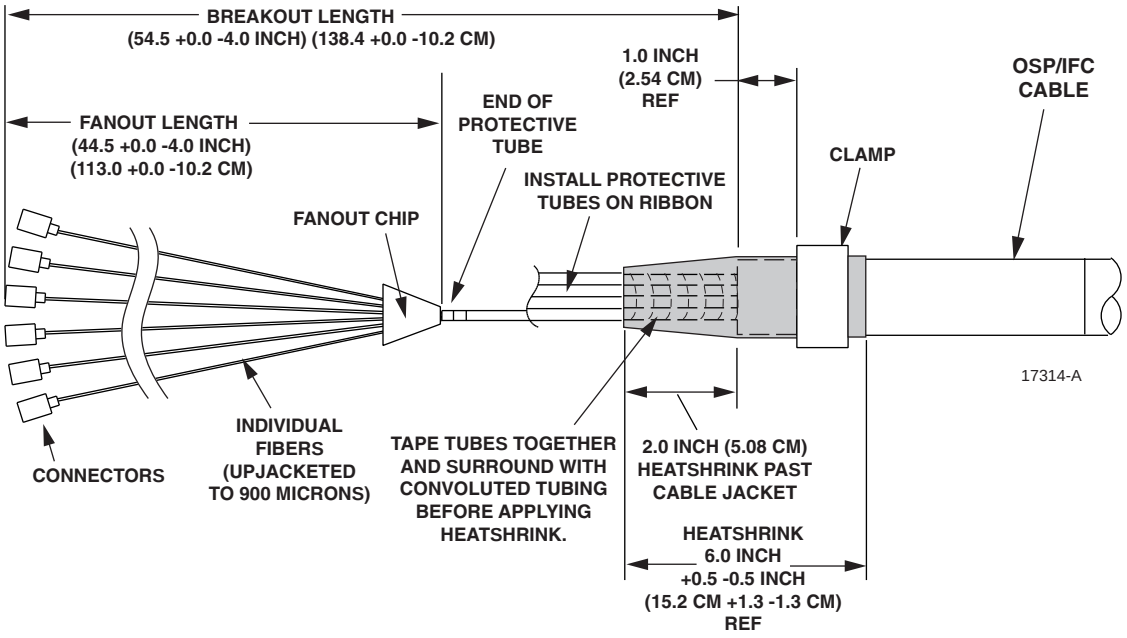

Figure 11. OSP/IFC Ribbon Cable Breakout Dimensions

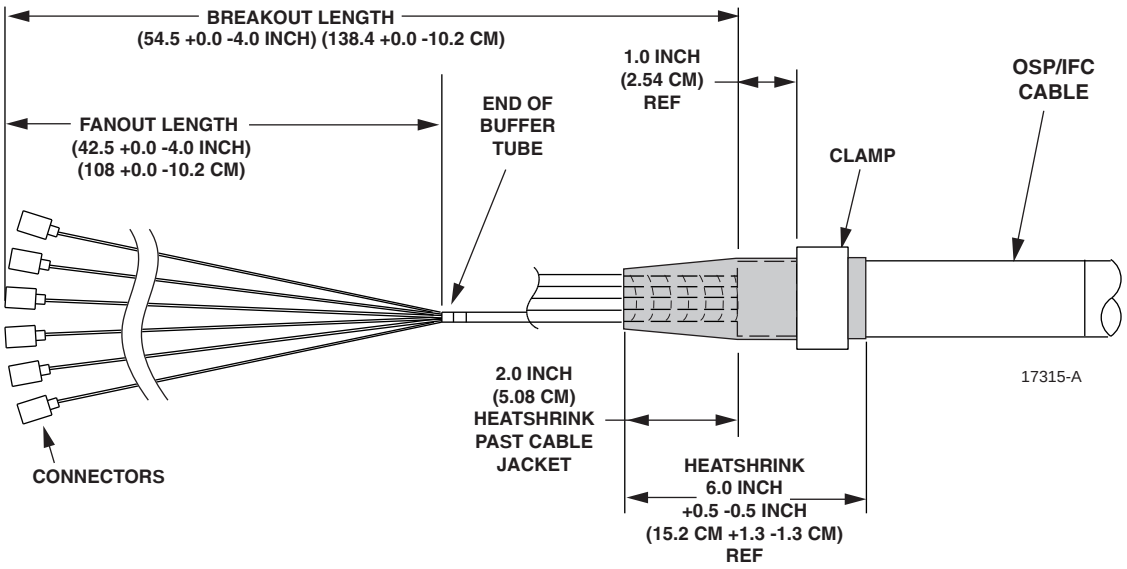

Figure 12. OSP/IFC Stranded Cable Breakout Dimensions

If the cable will be routed and installed after it is clamped to the FTB, remove the cable from its spool and then coil it up in a figure 8 pattern as shown in Figure 13, starting with the end that connects to the FTB. Make sure the end of the cable that does not connect to the FTB is coiled last.

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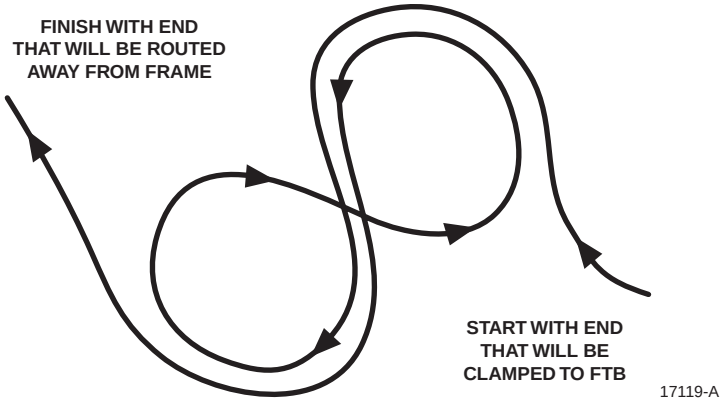

Figure 13. Storing Cable Using Figure 8 Pattern

4.3 Clamping Cable to FTB

Two ADC clamp kits are available. Kit # NGF-ACCCLMP08 is used for cables with an outside diameter of 0.4 to 0.8 inches (1.01 to 2.03 mm). Kit # OSP-CLPSST-IFCL is used for cables with an outside diameter of 0.8 to 1.2 inches (2.03 to 3.05). Cable clamps may be installed in either a top exit or bottom exit position (shown in Figure 14 and Figure 15, respectively). Use the following procedure for installing either cable clamp kit.

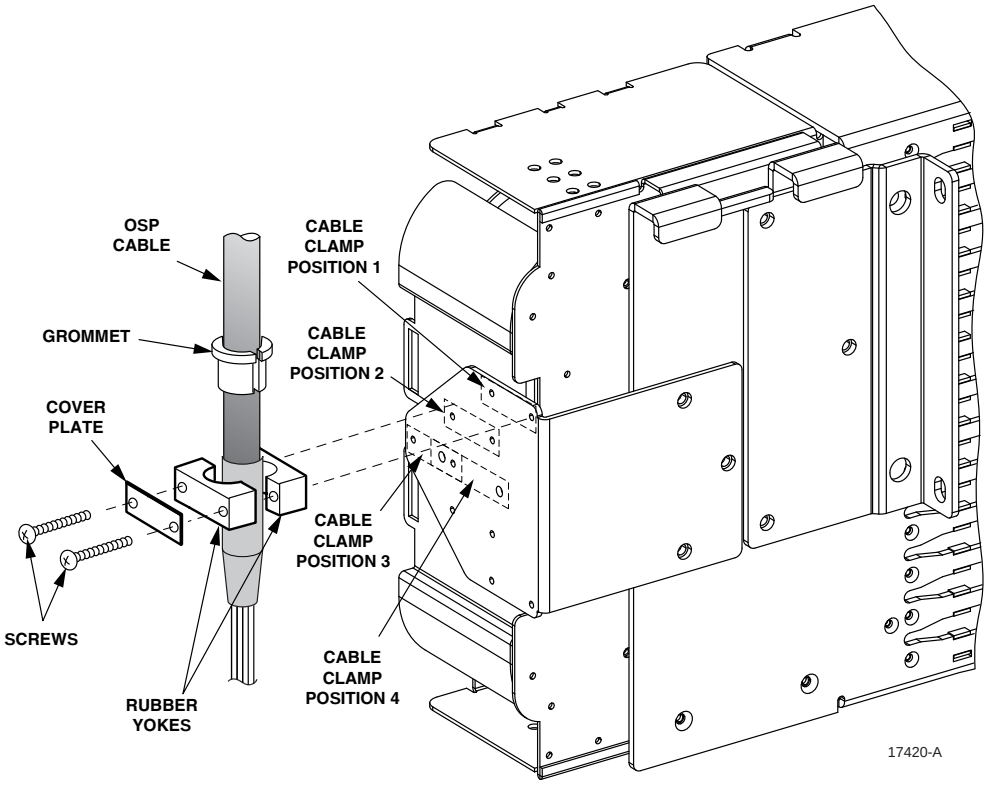

Figure 14. Top Exit IFC/OSP Cable Clamp Installation

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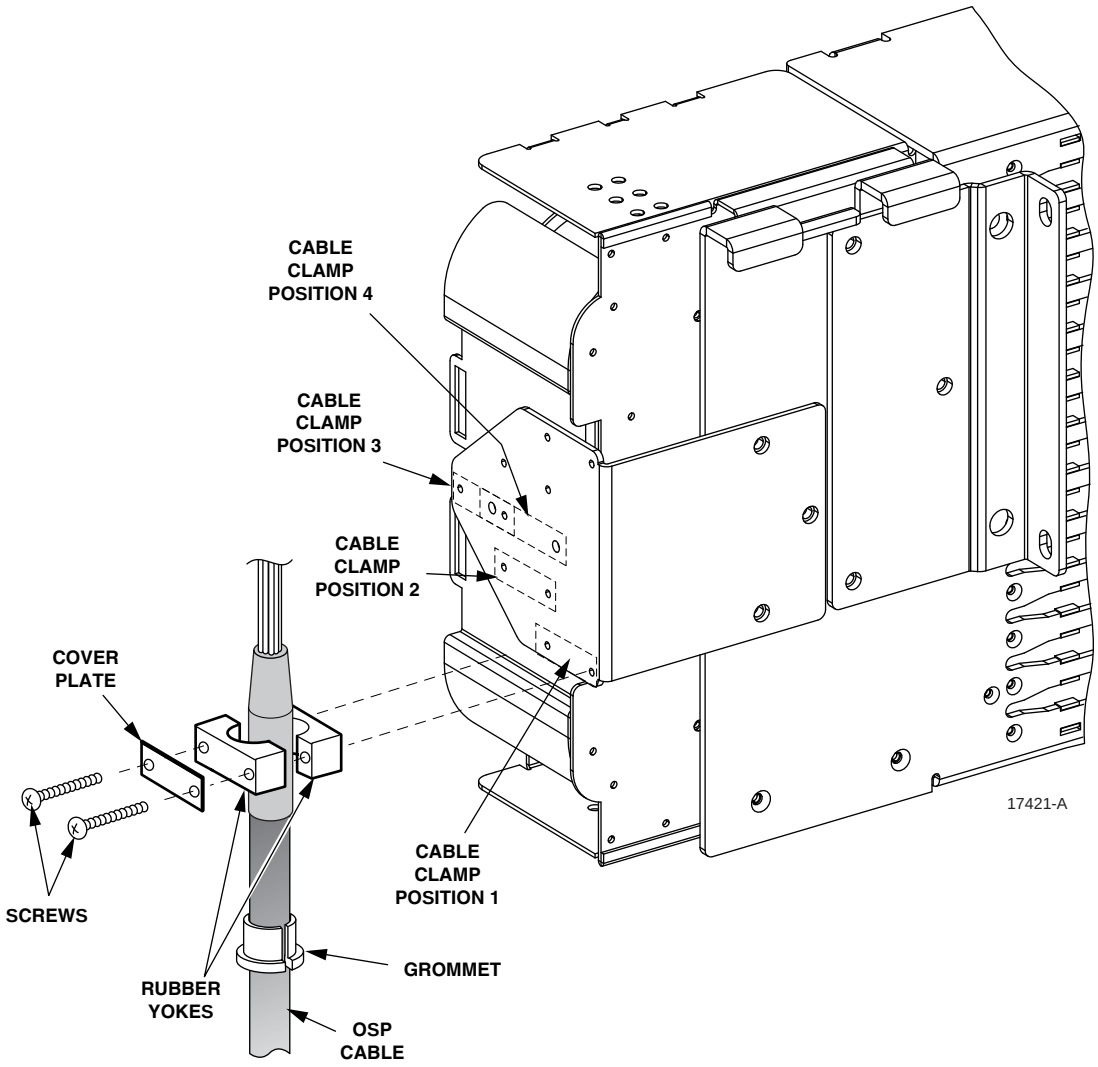

Figure 15. Bottom Exit IFC/OSP Cable Clamp Installation

1. Locate the cable clamp mounting position at the rear side of the FTB. Note that four clamping positions are provided for both top exit and bottom exit positions (shown in Figure 14 and Figure 15, respectively).

Note: If more than one cable will be attached to the FTB, use the clamping positions in the order shown.

2. Remove the side cover from the FTB.
3. Verify that the FTB has the correct cable exit orientation (top or bottom) for the cable installation, as shown in Figure 16.

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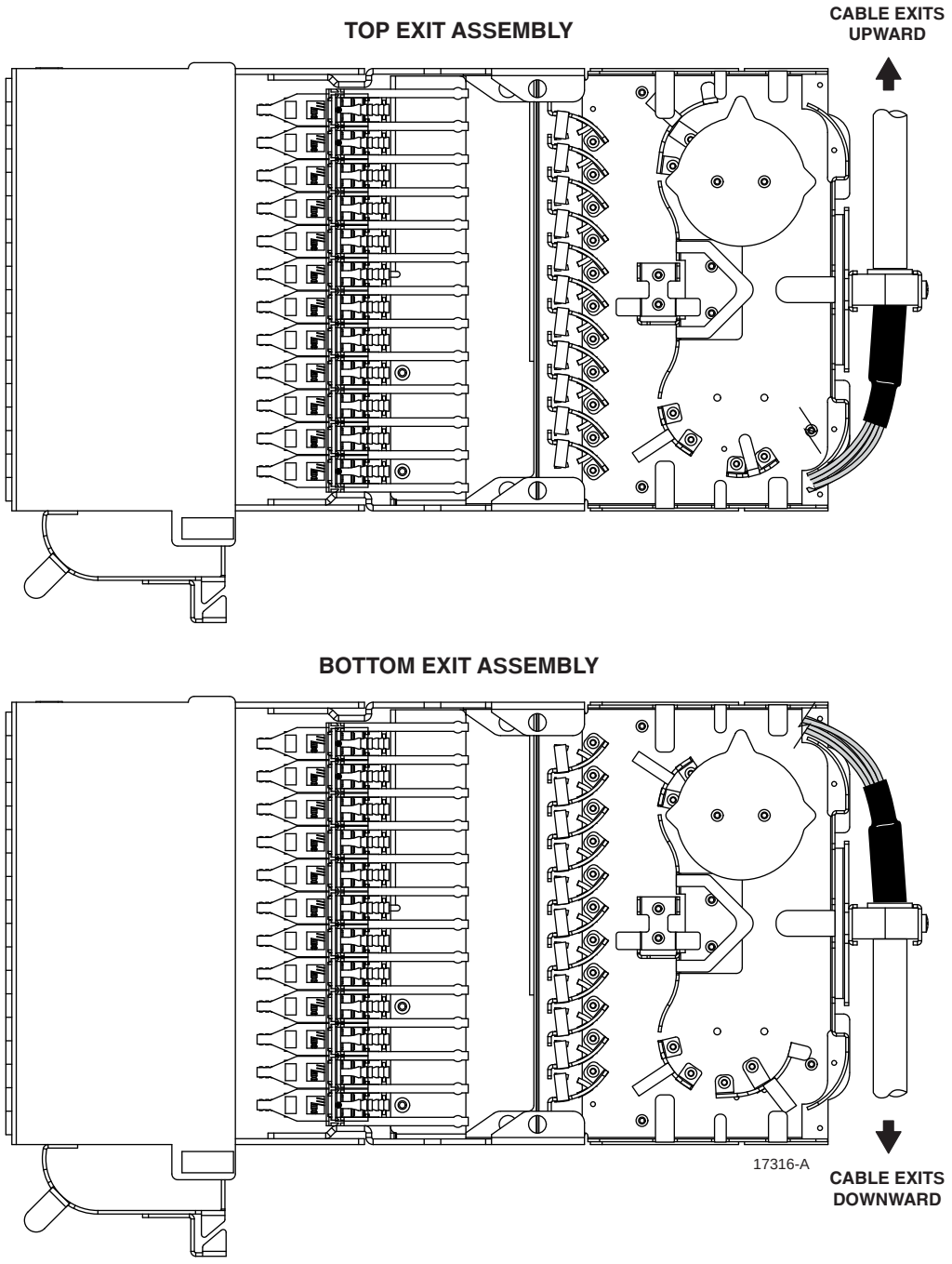

Figure 16. Cable Exit Orientation

4. Two rubber yokes and either three or four grommets (depending on the kit) are provided with the cable clamp kit for securing the cable to the FTB. Select the grommet that, when placed on the cable, results in the gap width shown in Figure 17.

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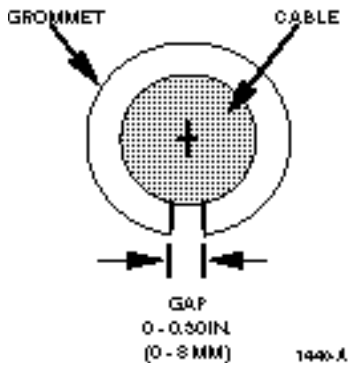

Figure 17. Grommet Selection

5. Place the rubber clamp yokes and the grommet selected in step 4 around the cable and then secure the cable to the FTB (see Figure 14 and Figure 15).

Note: If each of the grommets measured in step 4 have a gap that exceeds 0.30 inches (7.6 mm), a grommet is not required.

6. Repeat this procedure for each cable being installed.

4.4 Routing and Connecting Cable Fibers Within FTB

After the IFC or OSP cable is clamped to the FTB, use the following procedure to route and connect the cable fibers within the FTB and to store any excess slack. Refer to Figure 18 if the cable exits the FTB toward the top or Figure 19 if the cable exits the FTB toward the bottom.

1. Route the OSP/IFC cable fiber ribbon (if ribbon cable) or fiber sub-unit (if stranded cable) to the break-out point within the FTB.
2. Route the fibers from the fan-out chip or fiber sub-unit once around the storage spool forming a slack loop.
3. From the top of the storage spool, route the fibers to the rear side of the adapter pack for the first group of circuits.

Note: If the cable being installed exits the FTB toward the top, start with circuits assigned to the top row of adapter packs. If the cable exits the FTB toward the bottom, start with circuits assigned to the bottom row of adapter packs.

4. Rotate the adapter pack handle outward to grasp the adapter pack. Pull out the adapter pack into the accessible position.

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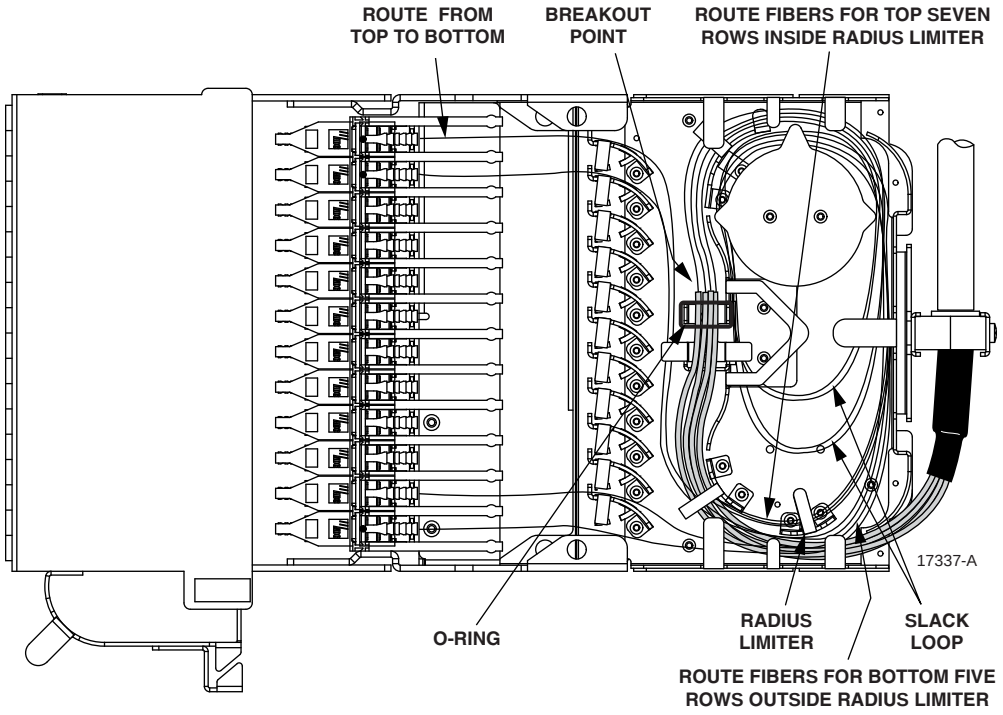

Figure 18. Top Exit Cable Routing

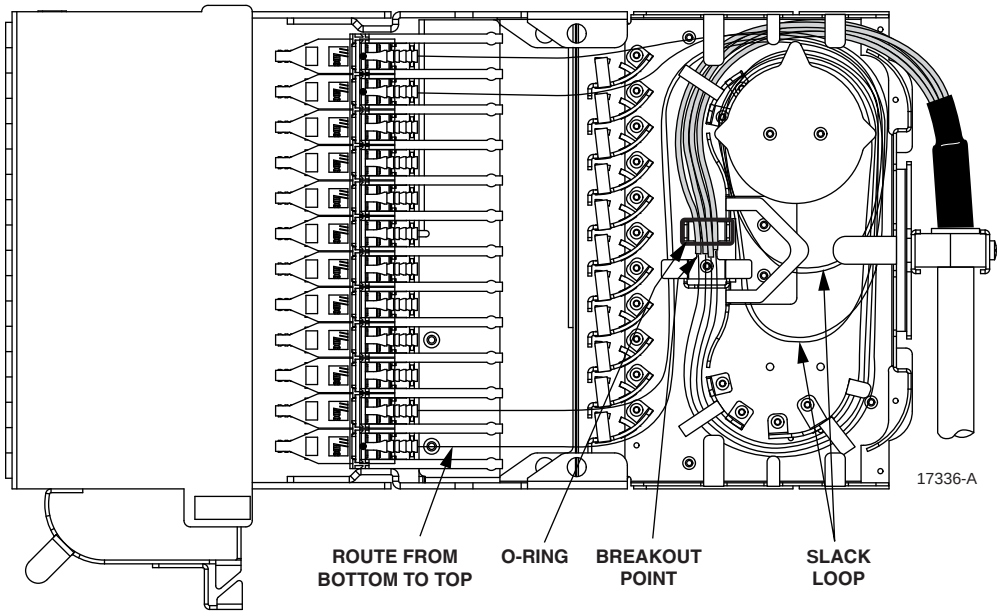

Figure 19. Bottom Exit Cable Routing

5. Slide the adapter pack outward to provide access to the rear side of the adapters as shown in Figure 20.

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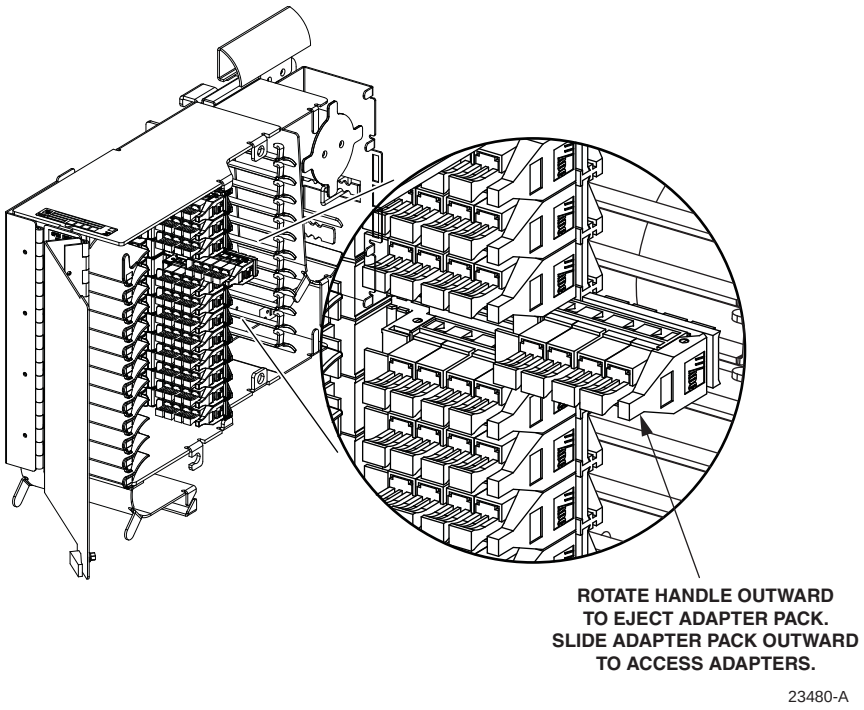

Figure 20. Accessing Adapter Packs in FTB

6. Remove the dust cover from each adapter and connect each fiber connector to the appropriate adapter.
7. Slide the adapter pack back to the center position and snap in the adapter pack handle.
8. Adjust the fiber storage loop to take up all excess fiber slack.

Note: The fiber slack should hang loosely below the spool and should not be wound tightly around the spool.

9. Use the basic process outlined in steps 1–8 to route and connect the fibers from each fiber ribbon or fiber sub-unit.
10. Install the O-ring at the fiber break-out point to secure the fan-out chips or fiber sub-units to the FTB.

5 FTB INSTALLATION

After the FTB has been prepared as described in Section 4, you can proceed to this section to mount the FTB on the frame.

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5.1 Mounting FTB On Rack

Use the following procedure to mount the FTB on the NGF rack:

1. If the FTB does not have an IFC/OSP cable attached or if an IFC/OSP cable was attached to the FTB following the instructions in Section 4.3, proceed to step 7. If the FTB is pre-terminated by the factory and mounted on a spool assembly, proceed to step 2.
2. Place the cable spool with the enclosed pre-terminated FTB next to the NGF rack and then position the spool so it is supported by the two plywood side supports.

Note: The FTB is mounted inside the cable spool and is designed to rotate as the cable is unwound from the spool.

3. Unwind the free end of the cable from the spool, and then route and install the cable within the building as required by the application. Leave sufficient slack at the frame end of the cable for mounting the FTB in the NGF rack.
4. When all of the cable is unwound from the spool, place the cable spool on its side with the smaller of the two plywood side supports facing up, as shown in Figure 21.
5. Remove the four wing nuts from the side of the spool, and then lift the spool side support assembly off the spool.
6. Remove the two foam packing blocks from the top of the FTB, and then carefully lift the FTB out from the center of the spool.
7. Locate the designated mounting position for the FTB. In a new rack installation, the rack may be populated by starting at the bottom and working toward the top or by starting at the top and working toward the bottom. Left-oriented FTBs mount only on the left side of the rack and right-oriented FTBs mount only on the right side of the rack.

Note: If installing a 144 position FTB with SC, FC, E2000, or ST adapters, you may have to install a mounting bracket on the frame. If a mounting bracket was provided with the FTB, install it per the instructions provided with it.

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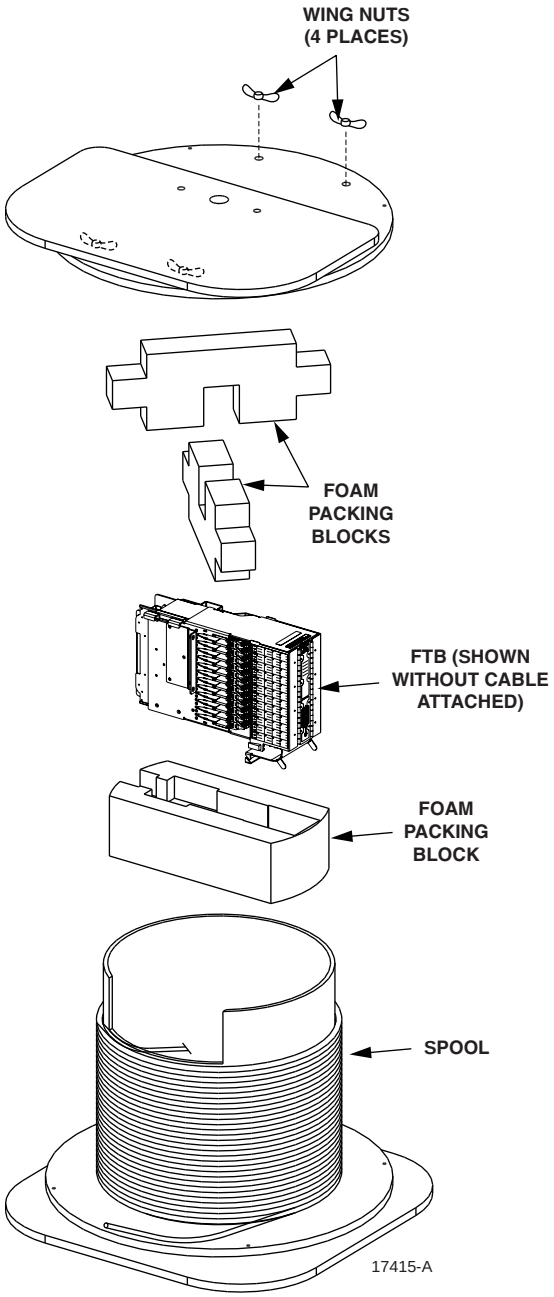

Figure 21. Pre-Terminated FTB Spool Assembly

8. Slide the FTB onto the appropriate mounting bracket at the front of the rack as shown in Figure 22.

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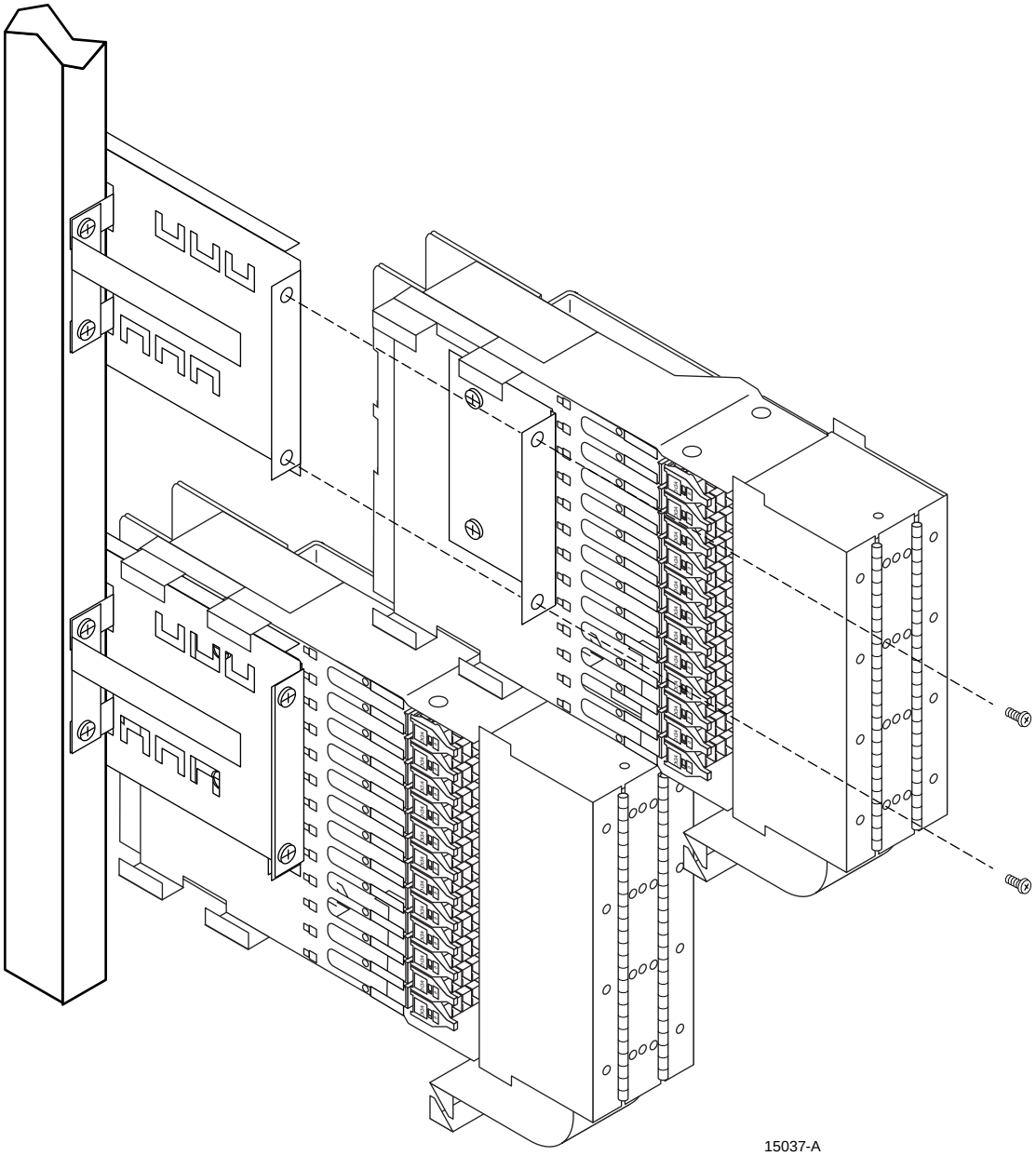

Figure 22. FTB Installation on Rack

9. Secure the FTB to the rack mounting bracket using the two #12-24 screws provided.
10. If an IFC/OSP cable is attached to the FTB, place the cable between the FTB mounting brackets and the vertical cable brackets.
11. Repeat steps 1–10 for each FTB.

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5.2 Securing IFC or OSP Cable to Rack

The method used for securing cables to the frame is determined by the whether the cables enter the rack at the top or the bottom. Refer to Figure 23 for the recommended method for placing and securing cables to the rack based on how the cables enter.

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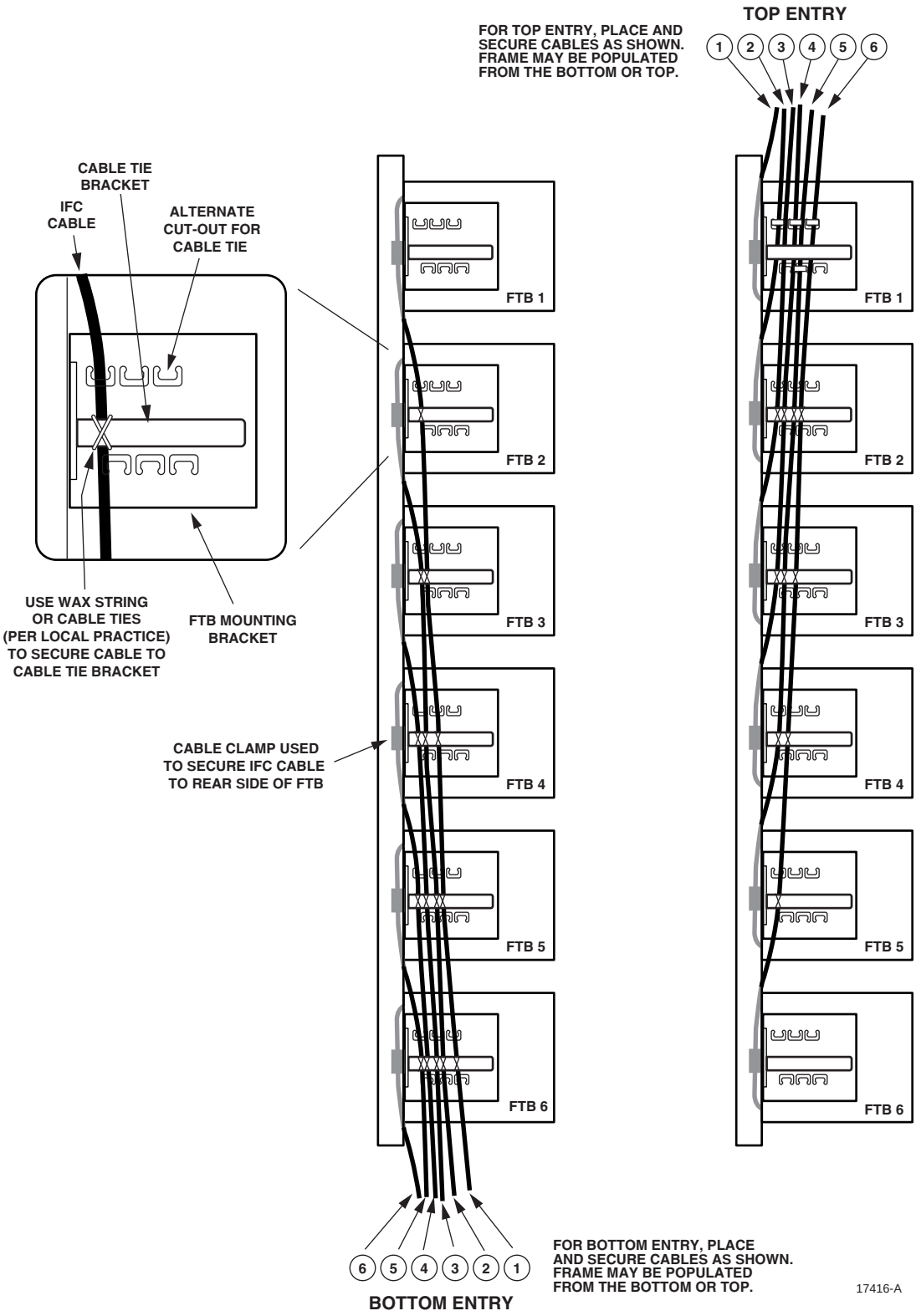
TOP ENTRY
FOR TOP ENTRY, PLACE AND SECURE CABLES AS SHOWN. FRAME MAY BE POPULATED FROM THE BOTTOM OR TOP.
1 2 3 4 5 6
CABLE TIE BRACKET
IFC CABLE
ALTERNATE CUT-OUT FOR CABLE TIE
USE WAX STRING OR CABLE TIES (PER LOCAL PRACTICE) TO SECURE CABLE TO CABLE TIE BRACKET
FTB MOUNTING BRACKET
CABLE CLAMP USED TO SECURE IFC CABLE TO REAR SIDE OF FTB
FTB 1
FTB 2
FTB 3
FTB 4
FTB 5
FTB 6
6 5 4 3 2 1
BOTTOM ENTRY
FOR BOTTOM ENTRY, PLACE AND SECURE CABLES AS SHOWN. FRAME MAY BE POPULATED FROM THE BOTTOM OR TOP.
17416-A

Figure 23. Securing IFC or OSP Cables to the NGF Rack

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6 FOT EQUIPMENT PATCH CORD INSTALLATION

When required by the application, patch cords (instead of an IFC or OSP cable) may be used to terminate FOT equipment circuits at the FTB. This section provides procedures for terminating the FOT patch cords at the FTB, routing them to the FOT equipment through either an overhead or underfloor fiber raceway system, and securing them at the NGF rack. The FTB should be installed on the NGF frame (see Section 4) before starting this series of procedures.

6.1 Terminating Patch Cord at FTB

Note: *The NGF Fiber Termination Blocks (FTBs) are designed to be used with 1.7mm or 2.0mm patchcords. 3.0mm patchcords should never be used due to the bulk build-up in the NGF solution.*

The patch cord being installed may be either single, dual, or multiple-fiber. Begin installation by terminating the patch cord at the FTB as described in the following procedure. Then refer to sub-section 6.2, 6.3, 6.4, or 6.5 (whichever applies) for routing the patch cord between the NGF frame and the FOT equipment.

1. If the patch cord is multiple-fiber, break it out for installation using a breakout length of 29-35 inches (74-89 cm). If the patch cord is single or dual, no breakout is required.
2. Locate the FTB within the NGF rack and remove the FTB side cover to provide access to the inside of the FTB chassis.

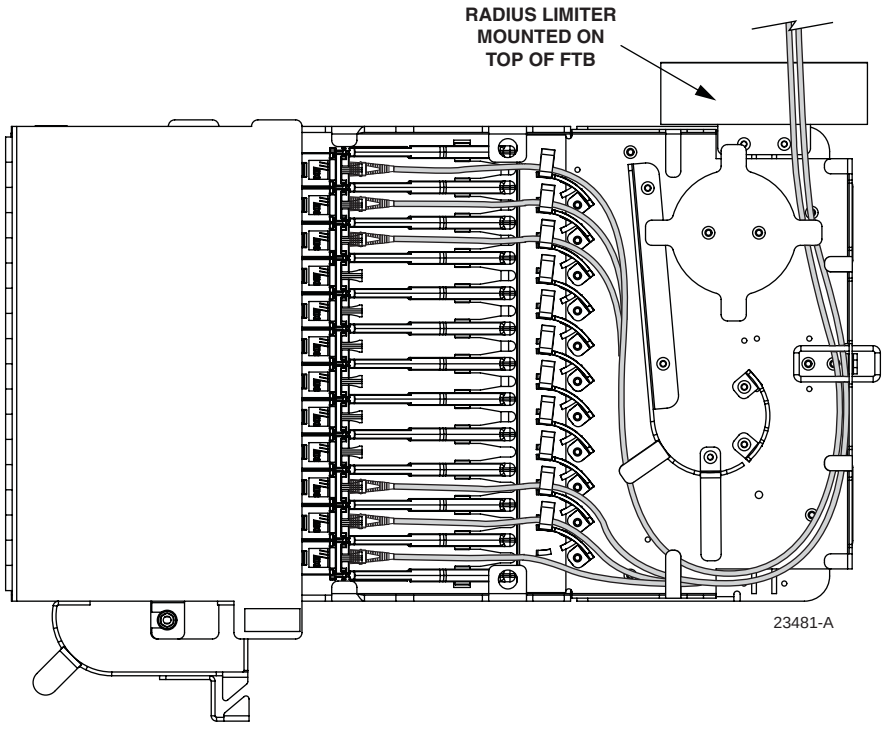

Figure 24. FOT Patch Cord Internal FTB Routing
Top Entry, Single or Dual Patch Cord (Left-Oriented FTB Shown)

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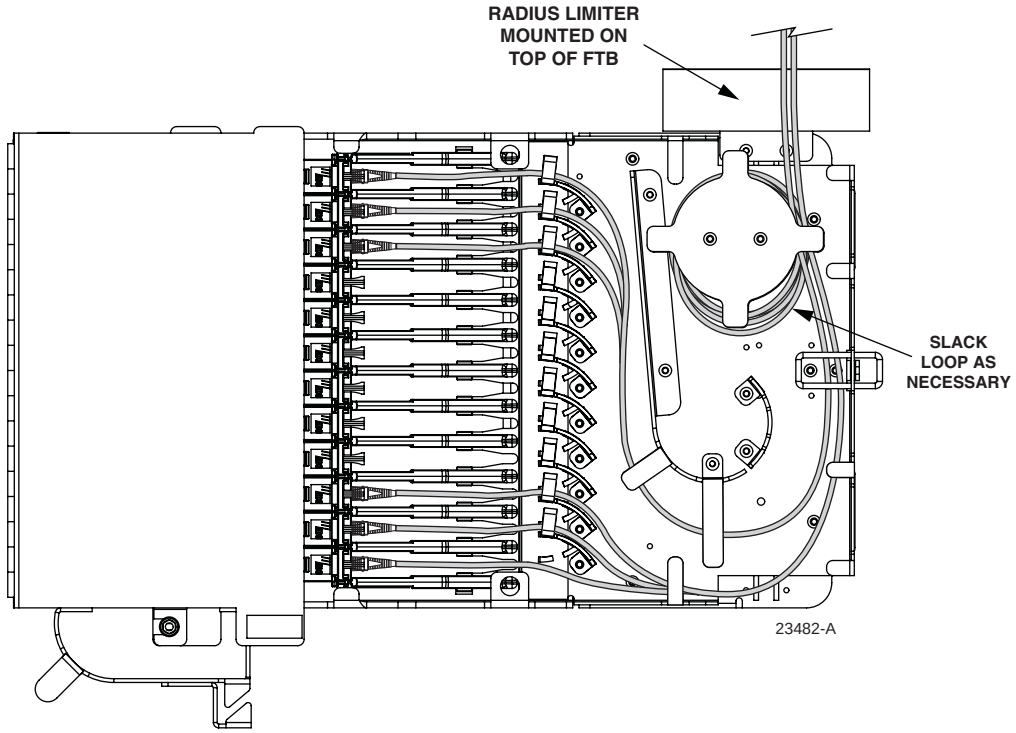

Figure 25. FOT Patch Cord Internal FTB Routing
Top Entry, Multiple Fiber Patch Cord (Left-Oriented FTB Shown)

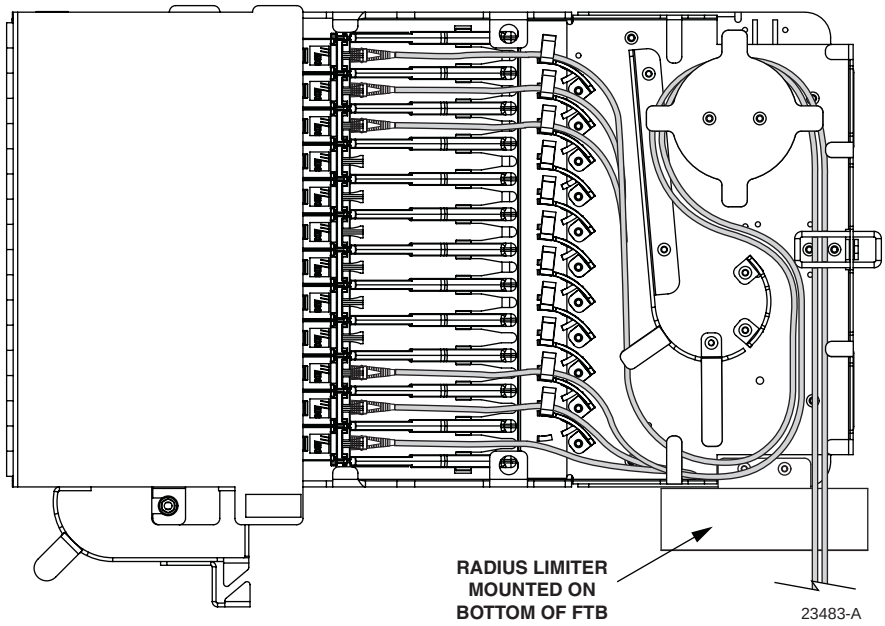

Figure 26. FOT Patch Cord Internal FTB Routing
Bottom Entry, All Patch Cords (Left-Oriented FTB Shown)

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3. If using an overhead fiber raceway system, route the patch cord into the FTB from the top as shown in Figure 24 (if installing a single or dual patch cord) or Figure 25 (if installing a multiple fiber patch cord). If using an underfloor system, route the patch cord into the FTB from the bottom as shown in Figure 26.
4. Locate the adapter pack that houses the adapter for the required termination.
5. Rotate the adapter pack handle outward to grasp the adapter pack.
6. Slide the adapter pack outward to provide access to the rear side of the adapters as shown in Figure 27.

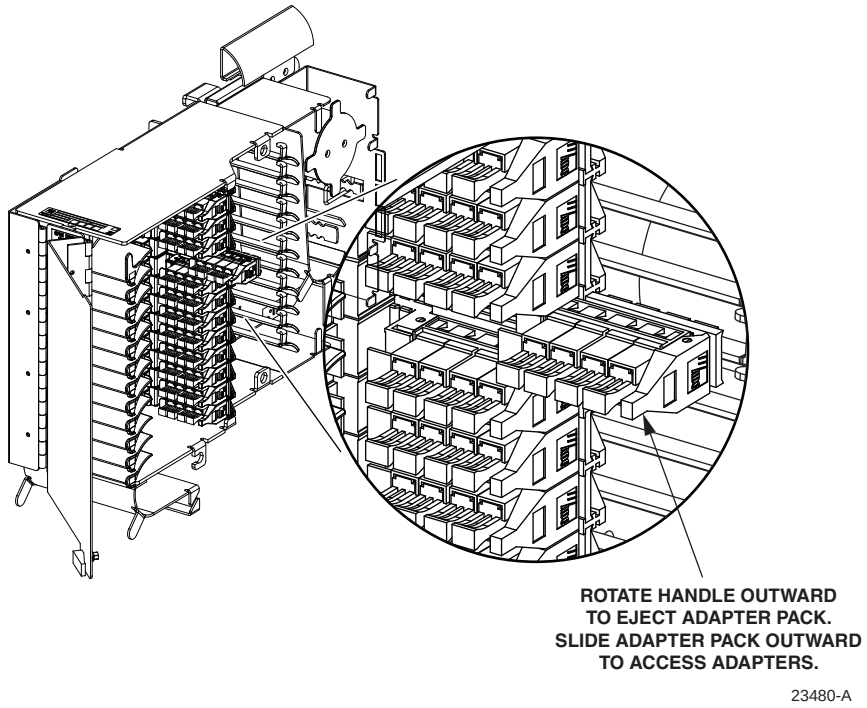

Figure 27. Access Adapter Packs in FTB

7. Remove the cover from the adapter, and then connect the patch cord connector to the appropriate adapter.
8. Use the basic process outlined in steps 1–7 for routing and terminating each FOT equipment patch cord at the FTB.
9. Install an O-ring on the cable clamp to secure the patch cords.
10. Slide the adapter pack back into the FTB and snap in the adapter pack handle.

Note: Ensure that sufficient slack is allowed for movement of adapter packs in the slack storage area of the FTB rear cable management.

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6.2 Installing FOT Equipment Patch Cords—Overhead Without FOTSB

Note: *The NGF Fiber Termination Blocks (FTBs) are designed to be used with 1.7mm or 2.0mm patchcords. 3.0mm patchcords should never be used due to the bulk build-up in the NGF solution.*

Use the following procedure to install FOT equipment patch cords when an overhead fiber raceway system will be used for routing and when a Fiber Optic Terminal Storage Bay (FOTSB) is not provided at the frame. Refer to Figure 28 for a diagram of the routing procedure.

1. Terminate the FOT equipment patch cords at the FTB as described in Section 6.1.

Note: Start with either the highest or lowest FTB and continue working in order from top-to-bottom or from bottom-to-top as each FTB is terminated.

2. Route the patch cord through the vertical channel at the side of the frame and into the overhead raceway system at the top of the frame.
3. Route the patch cord through the overhead raceway system to the FOT equipment.
4. Connect the patch cord to the FOT equipment.
5. Accumulate and store the excess patch cord length at the FOT equipment.
6. Repeat steps 1–5 as each FTB is terminated.

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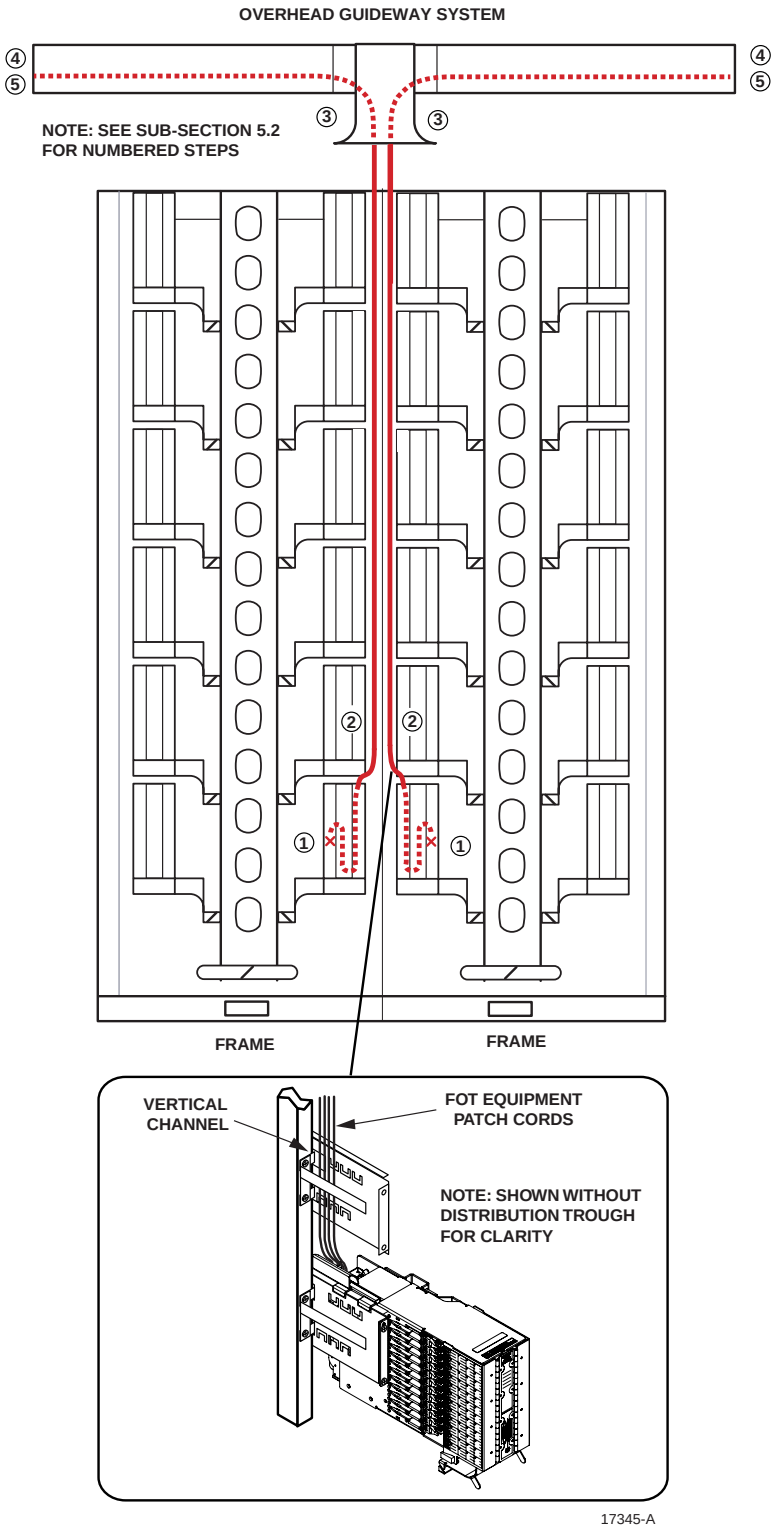

Figure 28. Overhead FOT Equipment Patch Cord Installation (Without FOTSB)

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6.3 Installing FOT Equipment Patch Cords—Overhead With FOTSB

Use the following procedure to install FOT equipment patch cords when an overhead fiber raceway system will be used for routing and when a Fiber Optic Terminal Storage Bay (FOTSB) is provided at the frame. Refer to Figure 29 for a diagram of the routing procedure.

Note: When using a FOTSB, always use up-configured FTBs.

1. Connect the patch cord to the FOT equipment.
2. Route the patch cord through the overhead raceway system to the top of the FOTSB.
3. Route the patch cord through the vertical cable guides to the bottom of the FOTSB.
4. Allow the patch cord slack to temporarily rest at the bottom of the FOTSB.
5. Terminate the patch cord at the FTB as described in Section 6.1.
6. Route the patch cord over the adjacent bend radius limiter and through the FOTSB vertical cable guides to the bottom of the FOTSB.
7. Form a storage loop out of the excess patch cord length at the bottom of the FOTSB. Make sure the lower ends of the loop pass under the edge protector spools at the bottom of the FOTSB storage spool panel.
8. Store the excess patch cord slack by hanging the storage loop over the appropriate storage spool.

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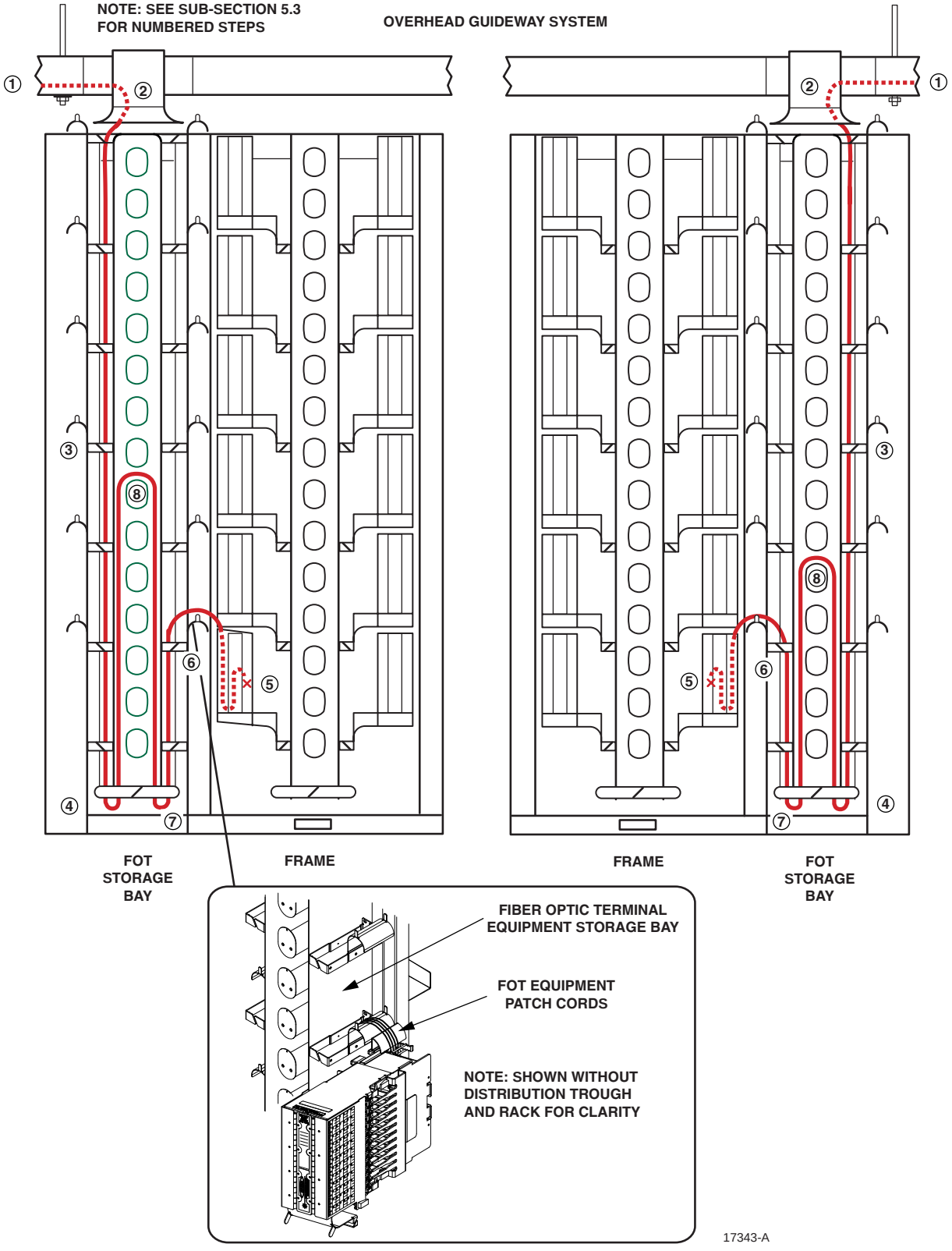

Figure 29. Overhead FOT Equipment Patch Cord Installation (With FOTSB)

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6.4 Installing FOT Equipment Patch Cords—Underfloor Without FOTSB

Use the following procedure to install FOT equipment patch cords when an underfloor fiber raceway system will be used for routing and a when a Fiber Optic Terminal Storage Bay (FOTSB) is not provided at the frame: Refer to Figure 30 for a diagram of the routing procedure.

1. Terminate the FOT equipment patch cord at either the top FTB or bottom FTB as described in Section 6.1.

Note: Start with either the highest or lowest FTB and continue working in order from top-to-bottom or from bottom-to-top as each FTB is terminated.

2. Route the patch cord through the vertical channel at the side of the frame and into the underfloor raceway system at the bottom of the frame.
3. Route the patch cord through the underfloor raceway system to the FOT equipment.
4. Connect the patch cord to the FOT equipment.
5. Accumulate and store the excess patch cord length at the FOT equipment.
6. Repeat steps 1–5 as each FTB is terminated.

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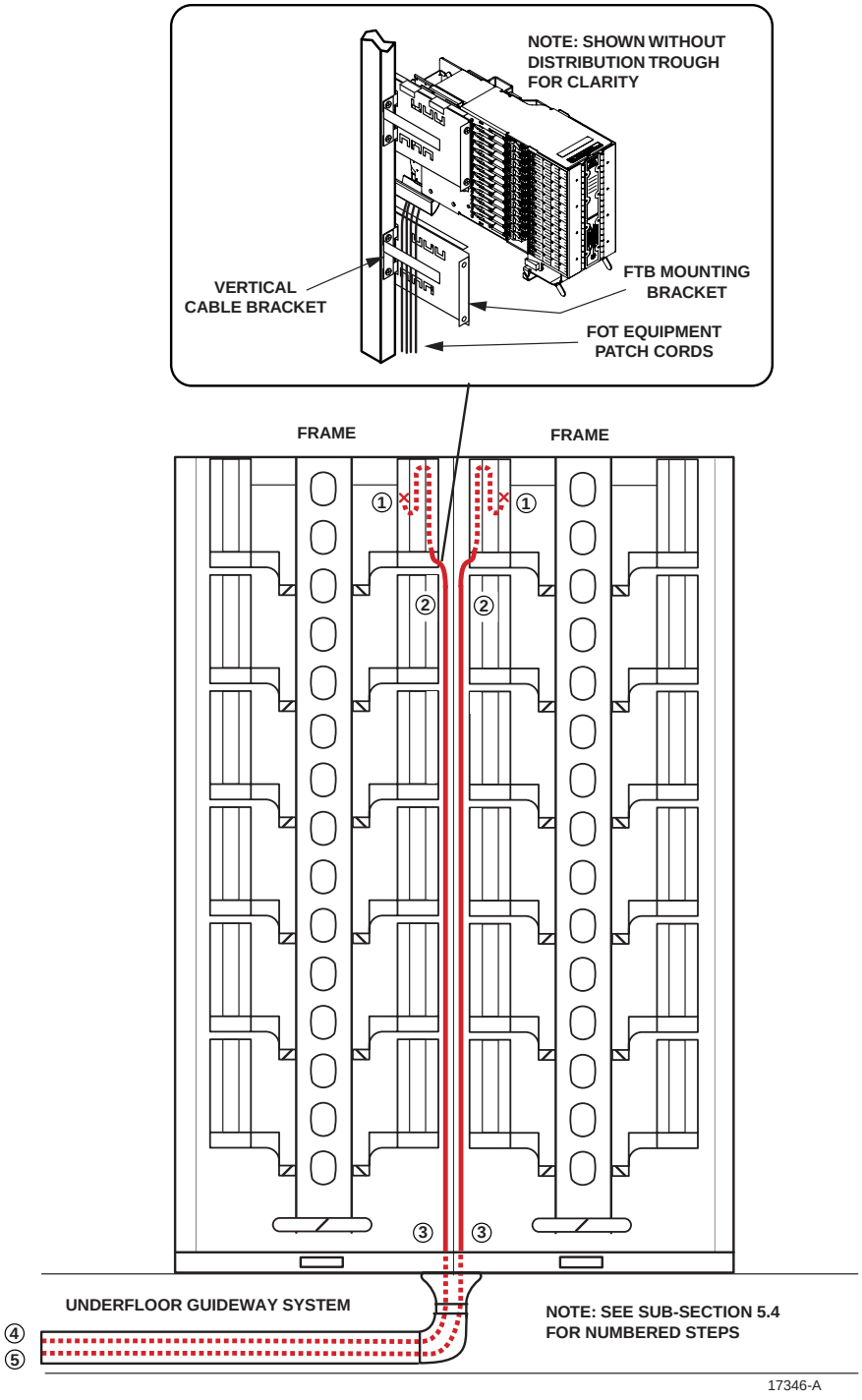

Figure 30. Underfloor FOT Equipment Patch Cord Installation (Without FOTSB)

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6.5 Installing FOT Equipment Patch Cords—Underfloor With FOTSB

Use the following procedure to install FOT equipment patch cords when an underfloor fiber raceway system will be used for routing and when a Fiber Optic Terminal Storage Bay (FOTSB) is provided at the frame. Refer to Figure 31 for a diagram of the routing procedure.

Note: When using a FOTSB, always use up-configured FTBs.

1. Connect the patch cord to the FOT equipment.
2. Route the patch cord through the underfloor raceway system to the bottom of the FOTSB.
3. Allow the patch cord slack to temporarily rest at the bottom of the FOTSB.
4. Terminate the patch cord at the FTB as described in Section 6.1.
5. Route the patch cord over the adjacent bend radius limiter and through the FOTSB vertical cable guides to the bottom of the FOTSB.
6. Form a storage loop out of the excess patch cord length at the bottom of the FOTSB. Make sure the lower ends of the loop pass under the edge protector spools at the bottom of the FOTSB storage spool panel.
7. Store the excess patch cord slack by hanging the storage loop over the appropriate storage spool.

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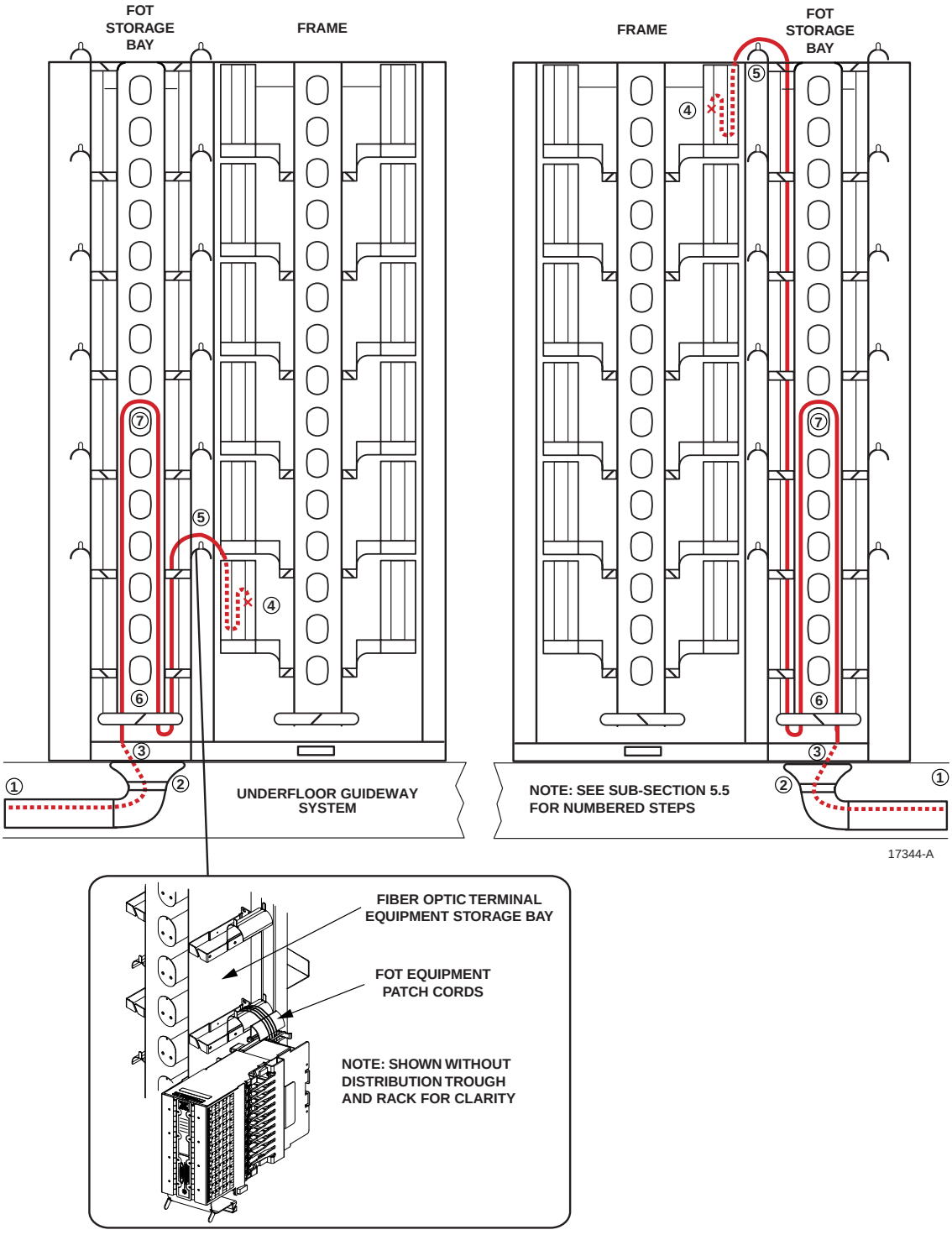

Figure 31. Underfloor FOT Equipment Patch Cord Installation (With FOTSB)

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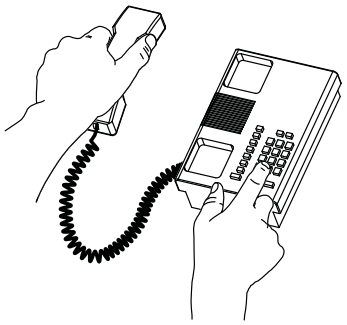

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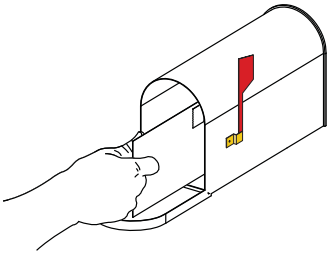

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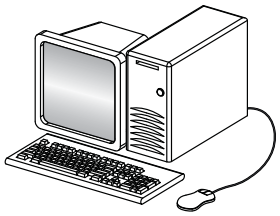

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